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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/587,719  | 07/28/2006  | Tsuyoshi Macgawa     | 038788.57892US      | 2032             |
| 23911 7590 09/15/2009<br>CROWELL & MORING LLP<br>INTELLECTUAL PROPERTY GROUP<br>P.O. BOX 14300<br>WASHINGTON, DC 20044-4300 |             |                      |                     |                  |
| EXAMINER<br>ROBINSON, LAUREN E  |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 1794  |             |                      |                     |                  |
| MAIL DATE   |             | DELIVERY MODE        |                     |                  |
| 09/15/2009  |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/587,719

**Applicant(s)**

MAEGAWA, TSUYOSHI

**Examiner**

LAUREN ROBINSON

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/ISD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 5/2009

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 5 -7 are rejected under 35 U.S.C. 103(a) as obvious over Hayakawa (US PN 5,421,877) cited by applicants'.

**Regarding claim 1:** Hayakawa teaches an automotive glass (all) with a ceramic color layer formed thereon (title) thereby meeting applicants' claimed limitation of being formed on at least part of the glass. The color layer is formed using a ceramic color paste which can include first and second pigments and, additionally, glass frit, as presently claimed.

Hayakawa teaches that the first and second pigments may be selected to achieve a desired color and, moreover, that the first and second pigments may have different colors, such as black and green, specifically green as a second pigment. (see col. 2, lines 25-30 and col. 3, lines 7-17). Therefore, it would have been obvious to one having ordinary skill in the art to employ a mixture of black and green pigments and particularly with green being the second pigment, in the coating layer of Hayakawa, since Hayakawa suggests such combinations.

Regarding the relative amounts of the first and second pigments Hayakawa is not particularly limiting, but teaches that the first and second pigments may be present in relative amounts that overlap the presently claimed range of 30-80 wt% relative to 100 wt% of total pigments (see Col. 3, lines 40-42 and 55-57). Specifically, Example 1 in Hayakawa teaches that the second pigment is in an amount of 40 wt% relative to 100 wt% of the first and second pigments (Example 1, Table 1) and as mentioned, green pigment is suitable for such a second pigment. Therefore, this illustrates overlapping of the amount within claim 1.

Moreover, the amount of claim 6 is also overlapped because the reference teaches the first pigment being from 5 to 25 wt% of the total first and second pigment and the second being from 3 to 15 wt% (Col. 3, lines 40-60) of the total first and second. As it was found obvious to use a mixture of black and green with the green as the second pigment, the ranges above would include an obvious mixture of for example, 10wt% first black and 15wt% second green pigment which would provide for 60wt% to the total 100wt% black and green.

The examiner notes that as it is seen that values taught by the reference overlap applicants' and it is known in the art that concentration is result effective and optimization changes physical properties, such as color in the present case, one having ordinary skill would know that the amounts can be optimized to any value within the above ranges and through routine experimentation, desired results can be obtained and applicants' values would be provided. However, the examiner also notes that since the taught ranges do overlap applicants' and would be expected during such routine

experimentation, it would appear that applicants' are merely claiming optimum and workable ranges and this is not patentable.

Specifically, according to the MPEP, when the general conditions are within the prior art, it is not inventive to merely discover optimum or workable ranges through routine experimentation and unless evidence showing criticality is established, claimed concentration will not provide patentable weight. As such, one having ordinary skill would recognize that the concentrations of the individual pigment amounts can be optimized to any amounts within the ranges to obtain desired physical results and the applicants' claimed values would be obtained through routine experimentation. MPEP 2144.05 In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235(CCPA 1955).

Further, although the reference does not teach the optical properties, the examiner notes that as mentioned, applicants' structure of a color layer comprising mixtures of black and green on a window glass with the claimed pigment amounts is within the reference. As it appears that the critical feature for obtaining such properties within the applicants' disclosure is having green pigment and black pigment in the claimed amounts and this is what is in the reference, one having ordinary skill would reasonably expect the claimed properties to naturally flow from the reference as amended. MPEP 2112. (**Claims 1 and 6**).

**Regarding claim 2:** Further, as discussed, the color paste includes the pigment and additionally includes a low melting point glass frit (abstract) (**Claim 2**).

**Regarding claim 3:** Also, the reference teaches that the ratio of pigment to total pigment and frit is from 0.08 to 0.40. (col. 2, lines 48-49). The examiner notes that this

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range provides a frit to pigment ratio which overlaps applicants'. This is because one would recognize that the above pigment to total ratio corresponds to pigment making up 8wt% to 40wt% of the total (100wt%) pigment and frit which leaves the frit being in an amount of 92 wt% to 60 wt% which thereby provides a ratio of frit to pigment of 92:8 to 60:40. Moreover, as illustrated in Example 1 of the reference, ratios such as 75:25 are used which is "about 80:20" as the applicants' claimed "about" allows for values slightly below such as the one above.

As it is known in the art that concentration optimization changes physical properties, such as increased/decreased pigment relative to glass will change color in this case, one having ordinary skill would know that the amounts can be optimized to any value within the taught ranges and through routine experimentation, desired results can be obtained. However, the examiner does note that since the taught ranges do overlap applicants', it would appear that applicants' are claiming optimum and workable ranges through routine experimentation, of Hayakawa and this is not patentable. Specifically, the examiner notes that according to the MPEP, when the general conditions are within the prior art, it is not inventive to merely discover optimum or workable ranges through routine experimentation and unless evidence showing criticality is established, claimed concentration will not provide patentable weight. As such, one having ordinary skill would recognize that the concentrations of both can be optimized to any amounts to obtain desired physical results and the applicants' claimed values would be obtained through routine experimentation. MPEP 2144.05 In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235(CCPA 1955 (**Claim 3**)).

**Regarding claim 5 and 7:** Hayakawa teaches that green pigment used is Cr<sub>2</sub>O<sub>3</sub> (**Claim 5**). Further, as the reference only includes first and second pigments and it is illustrated within the examples that no other pigment components being present, Hayakawa including the black and green mixture as discussed above will only include first black and second green pigment components (**Claim 7**).

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Hayakawa (US PN 5,421,877) in view of Ubuichi et al. (JP 11-228177) already of record.

As discussed, Hayakawa teaches applicants' invention of claim 1 with the black pigment being CuO-Cr<sub>2</sub>O<sub>3</sub> (Example 1). However, the reference does not teach the black pigment being CuO-Cr<sub>2</sub>O<sub>3</sub>-MnO although this would have been obvious.

For instance, Ubuichi teaches that in a ceramic color layer comprising pigment and frit formed on an automotive window glass (0001, examples), CuO-Cr<sub>2</sub>O<sub>3</sub> black pigments are functionally equivalent to CuO-MnO-Cr<sub>2</sub>O<sub>3</sub> (0018).

Since Hayakawa and Ubuichi disclose analogous inventions related to color layers comprising pigment and frit formed on automotive glass and Ubuichi illustrates CuO-MnO-Cr<sub>2</sub>O<sub>3</sub> functional equivalence to the CuO-Cr<sub>2</sub>O<sub>3</sub> within Hayakawa, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Hayakawa to include that CuO-Cr<sub>2</sub>O<sub>3</sub>-MnO can be used in place of CuO-Cr<sub>2</sub>O<sub>3</sub> in Hayakawa's example to function as a black pigment therein (**Claim 6**).

### ***Response to Arguments***

.Applicant's arguments filed May 1, 2009 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on May 27, 2009 prompted the new ground(s) of rejection presented in this Office action.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAUREN ROBINSON whose telephone number is (571)270-3474. The examiner can normally be reached on Monday to Thursday 6am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LAUREN ROBINSON/  
Examiner, Art Unit 1794

/Timothy M. Speer/  
Primary Examiner, Art Unit 1794